**IN THE UNITED STATES DISTRICT COURT**
**FOR THE NORTHERN DISTRICT OF ILLINOIS**
**EASTERN DIVISION**

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| UNITED STATES OF AMERICA<br><br>v.<br><br>GREGG SMITH and<br>MICHAEL NOWAK,<br><br>Defendants. | Case No. 19-cr-00669<br><br>Hon. Edmond E. Chang |

**MICHAEL NOWAK'S SURRESPONSE REGARDING SENTENCING**

We respectfully submit this memorandum on behalf of Michael Nowak, in response to the government's reply brief (ECF No. 873, "Repl.").

The government chose to interpret the Court's scheduling order (ECF No. 833) as limiting the scope of its reply to the Sentencing Guidelines loss calculation, thereby leaving unrebutted the points we made in our sentencing memorandum (ECF No. 864, "Nowak Sent. Mem.") concerning the other offense-level adjustments that the government seeks, as well as our request for a downward departure or variance and our position on the Section 3553(a) factors. As to loss, then, the government makes two arguments.[1]

First, still stubbornly repeating the mantra rejected by the jury, the government insists that Mike's Guidelines loss calculation should be inflated more than fifteenfold based on trading by "co-schemers." But rather than even try to engage with our specific references to the trial record that establish that Mike had no part in any jointly undertaken activity, the government offers only conclusory statements and zero support. For the reasons discussed at length previously and briefly

[1] The parties agree that the Court should not adopt Probation's loss calculation. *See* United States' Sent. Mem., ECF No. 856, at 20.

again below, the Court should reject this attempt to drive Mike's loss calculation into the stratosphere.

Second, the government submitted a 58-page declaration from Kumar Venkataraman (24 pages longer than his original declaration), drawing the Court further into a battle of experts. In his new declaration, the professor tries to defend only parts of his analysis, arrogantly complaining that two extremely well-credentialed financial and economic experts just don't "understand" him, even though their critiques led him to excise more than a thousand of Mike's supposed spoofing sequences from his analysis and effectively concede error on at least 40% of Mike's purported loss figure—which he now puts at $2.3 million, after his "updates." And he rounds out his declaration by offering a summary critique of Jeremy Cusimano's alternative loss figure of approximately $70,000,[2] but here again without any credible analytical support. For the reasons discussed below and in the attached declaration of Mr. Cusimano, *see* Ex. A, the Court should reject the government's last-ditch attempts to salvage its loss calculation and instead look to Mr. Cusimano's analysis as the only reasonable approximation of theoretical loss that has been offered here.

Accordingly, in the interests of justice, and for the reasons below and in our sentencing submission, we respectfully urge the Court to impose a noncustodial sentence.

**A. The Proof Does Not Show Conspiracy, Let Alone Jointly Undertaken Activity**

As both the jury and Probation recognized, the evidence does not establish that Mike conspired with others, so he cannot be held responsible for purported losses stemming from anyone else's trading. *See United States v. Nunez*, 673 F.3d 661, 662 (7th Cir. 2012) (jointly undertaken activity "is *narrower* [than conspiracy] because the activity undertaken by the defendant in concert with others is more limited than the activity, foreseeable to him, of the entire conspiracy")

[2] Applying Prof. Venkataraman's "updates" to Mr. Cusimano's alternative calculation results in a revised theoretical loss of approximately $53,000. *See* Ex. A, Cusimano Reply Decl., ¶ 46.

(emphasis added). The government does not meaningfully respond to our arguments on this point, which are firmly grounded in the trial record. *See* Nowak Sent. Mem., Parts III.A.1, III.B.1.a.

Instead, the government contends that Mike's acquittal for conspiracy is irrelevant because of the preponderance standard at sentencing, and claims without support that the evidence at trial was sufficient, pointing to six factors that courts consider. Repl. at 2–4 (citing *United States v. Salem*, 657 F.3d 560, 564 (7th Cir. 2011)). But those factors establish the very opposite: There was no credible evidence of a single coordinated scheme involving Mike, no evidence that Mike ever discussed spoofing with anyone (let alone coordinated their efforts), no evidence that he pooled spoofing resources or profits with "co-schemers," and no evidence that he had contemporaneous knowledge that anyone on the desk was spoofing. *See* Nowak Sent. Mem., Part III.A.1. That leaves the mere fact that traders on the desk sometimes traded in similar patterns—patterns also consistent with *legitimate trading*—which, alone, cannot clear the preponderance-of-the-evidence bar. *See id.*, Part III.B.1.b; *accord Salem*, 657 F.3d at 565 (distinguishing vacated sentence in *United States v. Studley*, 47 F.3d 569 (2d Cir. 1995), on basis that "[t]he evidence [there] did not show that Studley did anything to further the scheme outside of his own sales efforts or that he assisted other sales representatives with their sales," despite common modus operandi, shared office space, single coordinated scheme, and knowledge of others' involvement). The meritless and inflammatory claims that Mike "lied" to the CFTC in an unrelated investigation and "circled the wagons" long after he had stopped trading, Repl. at 3, are thus entirely irrelevant, and the government has again overreached. *See* Nowak Sent. Mem., Parts III.A.2–3.

### B. Mr. Cusimano's Alternative Calculation Proves That Any Theoretical Loss Is Orders of Magnitude Lower Than the Government Claims

Never content to choose a reasonable assumption when a maximalist one can be invented, the government and Prof. Venkataraman insist that Mike caused loss in a vast number of unproven

sequences, in ways inconsistent with their own theory of how spoofing works, and in amounts untethered to any factually attainable prices in the market. *See* Nowak Sent. Mem., Part III.B.1. And in pressing the Court to adopt this inflated, outcome-driven analysis, the government fails to carry its burden of proving each instance of trading "unlawful," *United States v. Chube II*, 538 F.3d 693, 705 (7th Cir. 2008), breezes past the absence of proof of causation, and stretches the meaning of loss, *see Dura Pharms., Inc. v. Broudo*, 544 U.S. 336, 344–46 (2005).[3] Prof. Venkataraman's second declaration does not fix any of that.

Mr. Cusimano, by contrast, has presented a sound and reliable means of approximating the theoretical loss here—and if the Court concludes that the amount of loss is calculable, we urge the Court to adopt Mr. Cusimano's alternative calculation as the only reasonable estimate.

Prof. Venkataraman articulates four supposed flaws in Mr. Cusimano's calculation. But the professor is far off the mark, because these so-called flaws are actually ways in which Mr. Cusimano *corrects* for serious methodological errors in Prof. Venkataraman's approach:

1. <u>The "But-For Price" Must Be a Real, Executable Price</u>

Prof. Venkataraman's analysis is premised on the shaky idea that a market participant that is tricked into overpaying[4] for an asset instantly loses the amount by which it overpays—yet he

[3] The government claims, without citation, that if "the asset's value later skyrockets through no doing of the defendant, the defendant does not get the benefit of the windfall via a lower loss amount." Repl. at 7. But the Sentencing Guidelines and the Supreme Court in *Dura* say otherwise. *See* U.S.S.G. § 2B1.1 cmt. n.3(A)(i) ("'Actual loss' means the reasonably foreseeable *pecuniary harm that resulted* from the offense.") (emphasis added); *Dura*, 544 U.S. at 342 ("[A]t the moment the transaction takes place, the plaintiff has suffered no loss; … [And] if, say, the purchaser sells the shares quickly before the relevant truth begins to leak out, the misrepresentation *will not have led to any loss*.") (emphasis added). And while the government suggests that *Dura* is "not relevant in a criminal sentencing," Repl. at 8, two circuit-court cases that the government cites disagree. *United States v. Rutkoske*, 506 F.3d 170, 179–80 (2d Cir. 2007) (seeing "no reason why considerations relevant to loss causation in a civil fraud case should not apply, at least as strongly, to a sentencing regime in which the amount of loss caused by a fraud is a critical determinant of the length of a defendant's sentence") (addressing government argument against *Dura*); *United States v. Olis*, 429 F.3d 540, 546 (5th Cir. 2005) ("civil damage measure should be the backdrop for criminal responsibility") (citing *Dura* for the "[well-established] principle of loss causation [in civil cases]"). The logic of *Dura* applies with equal force here, and the government has failed to carry its burden with respect to loss causation. *See* Nowak Sent. Mem. at 41–43.

[4] Or underselling, as the case may be; but for clarity, we have framed the discussion in terms of a buyer overpaying.

calculates the purported overpayment by measuring against the *unavailable, counterfactual price* at which the market participant may have *wished* to buy, without any evidence that it would or could have done so "but for" Mike. *See* Venkataraman Reply Decl., ECF No. 873-1, ¶¶ 46, 87. In his alternative calculation, Mr. Cusimano mitigates this by instead measuring against *the best price that was in fact available in the market*, which the market participant *could* have accepted. 1st Cusimano Decl., ECF No. 867-2, ¶¶ 45–46, 59.

The professor contends that Mr. Cusimano's choice of an alternative, real, executable but-for price is flawed because the purported victims "did not buy at [that] price (which they could have hit) before the spoof," which, he says, indicates that the price was "too high" for them, though he concedes it is "difficult to know." Venkataraman Reply Decl. ¶¶ 44, 87. But measuring loss based on a victim's subjective impression of worth, as Prof. Venkataraman proposes, is contrary to law. *See United States v. Messner*, 107 F.3d 1448, 1456 (10th Cir. 1997) (rejecting proposal to "valu[e] the assets upon their subjective worth to creditors," as "the amount of loss is usually determined by an item's fair market value"); *United States v. Reddeck*, 22 F.3d 1504, 1512 (10th Cir. 1994) (loss calculation "requires an objective standard"). And he does not explain how a price at which the purported victims could not have been assured of (and certainly were not entitled to) an execution could possibly be an appropriate measure of actual pecuniary harm.[5] *See United States v. Hemphill*, 694 F. App'x 697, 700 (11th Cir. 2017) (no loss where supposed victim was "not entitled to" purchase modular homes at lower price).

*More than 60%* of Prof. Venkataraman's "updated" loss calculation as to Mike—around $1.4 million—derives from this basic error of selecting a but-for price at which no purported victim

[5] In the same vein, Prof. Venkataraman devotes a full page to addressing our hypothetical homeowner example but at bottom admits to measuring loss from the homeowner's wished-for price. *See* Venkataraman Reply Decl. ¶ 40 ($300,000 listing price minus $270,000 sale price equals "Unadjusted Market Loss [of] $30,000").

could have been assured of an execution. This is not actual loss within the meaning of the Guidelines.[6] The Court should reject the government's attempt to engineer artificial but-for prices to more than double the purported losses. *Cf. United States v. Walsh*, 723 F.3d 802, 807 (7th Cir. 2013) (loss calculation must be at least "a *reasonable* estimate") (quoting Guidelines commentary) (emphasis added). Mr. Cusimano's calculation appropriately corrects this error.[7]

2. Executions on the "Large" Side of the Market Do Not Constitute Losses

According to the government and Prof. Venkataraman, a spoofer seeks to induce others to cross the spread to execute the spoofer's anonymous orders resting on the "small" side of the market, in reaction to the spoofer's large order volume on the "large" side, which the spoofer intends and fully expects to be able to cancel. *See, e.g.*, Trial Tr. 2726:13–2727:5, 3915:10–21. Yet by design, Prof. Venkataraman's loss calculation sweeps in trading *in the opposite direction*—executions of orders resting on the "large" side, *against* the supposed effect of the spoof orders. 1st Cusimano Decl. ¶¶ 37–39. This is squarely at odds with the government's (unproven) theory of causation here, and the government cannot coherently argue that such executions constitute reasonably foreseeable losses proximately caused by Mike. *See United States v. Lonich*, 23 F.4th 881, 916 (9th Cir. 2022) (actual loss, meaning reasonably foreseeable pecuniary harm, must have been both caused in fact and proximately caused by defendant's conduct).

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[6] Separately, for the first time in its reply, the government raises intended loss. *See* Repl. at 6 & n.1, 7 & n.3. If the government means to suggest that Mike intended greater loss than was actually caused, there is simply no evidence of that. *See United States v. Middlebrook*, 553 F.3d 572, 578 (7th Cir. 2009) (court must consider defendant's "subjective intent" to determine "intended loss"); *United States v. Confredo*, 528 F.3d 143, 152 (2d Cir. 2008) ("intended loss" means defendant's "subjective intent"); *see also United States v. Kopp*, 951 F.2d 521, 529 (3d Cir. 1991) ("The fraud guideline … has never endorsed sentencing based on the worst-case scenario *potential* loss…").

[7] Gregg Smith's expert, Mukarram Attari, likewise criticizes Prof. Venkataraman's choice of but-for price, but he instead proposes the mid-price, the midpoint between the best bid and best offer, as an alternative—transparently, we submit, as a compromise position. Attari Decl., ECF No. 865-3 (Apr. 10, 2023), ¶ 78. But while the mid-price is a halfway improvement, it does not correct the error: By definition, there are no orders resting at the mid, so the purported victim could not have been assured of a trade at that price. And whenever the best bid and offer are one tick apart (as is often the case in gold), the mid will be between price levels, where it is impossible to trade.

Prof. Venkataraman also compounds this error in his "Spread-Crossing Methodology," the basis for the adjusted calculation that the government has asked the Court to adopt. That adjustment hinges on "identifying spread-crossing trades during the Spoofing Sequence[s]" and comparing the rate of spread-crossing there to a supposed baseline rate, which the professor derives from his "control periods," Venkataraman Reply Decl. ¶ 51—yet here again, he lumps in trading in the opposite direction, *against* the purported spoof orders.

In his alternative calculation, Mr. Cusimano corrects these errors by excluding trades that run counter to the supposed impact of Mike's orders. 1st Cusimano Decl. ¶ 56. The professor's claim that this correction "ignores the changes in the bid ask quotes due to the price impact of the Spoof Orders" is nonsensical and fails to explain how trades executed contrary to the government's spoofing theory were proximately caused by Mike. Venkataraman Reply Decl. ¶ 88.

3. <u>True Control Requires an Analytically Established Baseline, Not Fake "Control Periods"</u>

Instead of relying on nearby "control periods" that do not control for crucial variables such as trading volume and price range—and which therefore cannot isolate the purported impact of Mike's conduct, *see* 1st Cusimano Decl. ¶ 43(d)—Mr. Cusimano uses a well-established baseline for his alternative calculation: the empirically proven expectation that 50% of trades result from buyers crossing the spread and 50% from sellers crossing the spread. *Id.* ¶¶ 48–49 (describing his analysis of all market data from Mike's trading days, confirming a 50/50 spread-crossing baseline). To determine the excess amount of spread-crossing, Mr. Cusimano thus measures the percentage of spread-crossing in the predicted direction during Mike's alleged spoofing sequences against this observable 50% baseline. *Id.* ¶¶ 65–69.

Prof. Venkataraman claims that this approach "completely ignores the effect of the Spoof Orders and the primary driver of market harm," Venkataraman Reply Decl. ¶ 89—but that is circular, because his only basis for saying so is that measuring against his fake "control periods"

suggests a far greater impact, *see id*. He does not even attempt to take on Mr. Cusimano's analysis confirming the 50/50 baseline. And his contention that his "control periods" are supported by literature on event studies is incorrect: The studies he cites all used standard, commonly accepted data-sampling frequencies (e.g., *daily* prices, *daily* averages), not short, arbitrary *x*-second trading windows, and certainly not to predict market activity in the next *x*-second window. *See* Cusimano Reply Decl. ¶¶ 21–26. As Mr. Cusimano explains, if Prof. Venkataraman's premise "were even approximately true, markets would never move randomly and would be easily predicted, which is not the case." *Id.* ¶ 31.

4. <u>The Calculation Must Be Limited to the Period of Theoretical Impact in Each Sequence</u>

Prof. Venkataraman conjures up "losses" from up to the full duration of each alleged spoofing sequence, without a shred of evidence that Mike's orders had an impact from the very start to very end of each sequence. Mr. Cusimano, by contrast, proved with robust analysis that any impact of order-book imbalances in Mike's alleged spoofing sequences dissipated within a short period: within 3.2 seconds of Mike's order volume reaching a 30-lot threshold in the top five levels on the "large" side, and within 0.9 seconds of his placement of the last order in the scaled group. Based on these empirical results, Mr. Cusimano's alternative calculation limits the theoretical loss to a window starting from when the 30-lot threshold is reached and continuing either (a) for 3.2 seconds or (b) until 0.9 seconds after the placement of the last order in the scale, whichever is longer. 1st Cusimano Decl. ¶ 53.

Prof. Venkataraman claims that Mr. Cusimano's approach is underinclusive, because "even the entry of a small order can initiate an 'order book imbalance' if the book is sufficiently imbalanced prior to the placement of a small order." Venkataraman Reply Decl. ¶ 82. But that is bald speculation, not analysis, and it ignores the fact that Mr. Cusimano's 30-lot threshold comes from *the professor's selection criteria*. As Mr. Cusimano explains, the dissipation windows that

he identified in his analysis are based on actual market activity during Mike's alleged sequences, and they proved consistent with what he observed on an average basis across thousands of imbalances of all different sizes in the market generally. *See* Cusimano Reply Decl. ¶¶ 6–9.

### C. Prof. Venkataraman's "Updated" Analysis Remains Fatally Flawed, and Correcting Just Some of the Most Basic Errors Drastically Reduces the Purported Loss Amount

Prof. Venkataraman effectively concedes that his initial calculation was inflated, and he has now reduced the calculated loss with his corrective "updates." But he has not gone nearly far enough. He maintains maximalist positions with respect to many of the flaws that Mr. Cusimano identified, as we have touched on above—and he offers no response at all regarding several, including: (1) that he cannot establish that Mike's trading caused losses to traders who did not cross the spread, *see* 1st Cusimano Decl. ¶ 37–39; (2) that his "control periods" cannot predict activity in subsequent time periods, *see id.* ¶ 43(d); and (3) that he compared his "control periods" to the alleged sequences only on an aggregate basis, thereby eliminating any marginal predictive value they might have had, *see id.* These criticisms remain unrebutted.

Indeed, if Prof. Venkataraman were to correct for just five glaring flaws, his calculation of Mike's purported loss amount would drop drastically. If he were to (1) adopt two key selection criteria that he used in *United States v. Bases*, i.e., that alleged spoof orders must be placed in the top five levels of the order book and canceled within five seconds after the last order is placed, *see id.* ¶¶ 23–25;[8] (2) exclude executions on the "large" side of the market, which run counter to the government's spoofing theory, *see supra*, Part B.2; (3) exclude executions resulting from two matched spread orders, which the government has said involve "a completely different market with

[8] Prof. Venkataraman argues that his use of different selection criteria here was "grounded in the trading patterns shown at trial through the 100 DOJ Episodes." Venkataraman Reply Decl. ¶ 23. But this is plainly false, as he admits that the longest alleged spoof order presented at trial with respect to Mike was 34.875 seconds long, *see id.* ¶ 27, yet his selection criteria included sequences up to 82.3 seconds long, *see* 1st Venkataraman Decl. at 7 n.12.

different mechanics in the top five levels," Pretrial Conf. Tr. 555:22–23; (4) measure loss against a real, executable but-for price instead of a wished-for price, *see supra*, Part B.1; and (5) limit his calculation to the windows of time when the market could theoretically have been reacting to Mike's orders, *see supra*, Part B.4, then the purported loss amount would drop by more than 85%, to $308,715, as the table below shows. *See* Cusimano Reply Decl. ¶¶ 38–44.[9] Even if he were to correct for only a subset of these five, his calculated loss amount would drop dramatically.

| Correcting Five Basic Errors in Prof. Venkataraman's Analysis | | | |
|---|---|---|---|
| | | Prof. Venkataraman's Loss Amount | Amount of Reduction If Applied in Isolation |
| | "Updated" methodology | $2,309,146 | – |
| 1 | Applying *Bases* 5-second and top-5-level criteria… | $2,122,417 | $186,729 |
| 2 | … and excluding executions on the "large" side… | $1,712,187 | $450,572 |
| 3 | … and excluding executions between two spread orders… | $1,588,147 | $141,481 |
| 4 | … and using a real, executable but-for price… | $820,903 | $1,426,680 |
| 5 | … and limiting to 3.2-second reaction window | **$308,715** | $1,444,775 |

We submit that the magnitude of these reductions demonstrates that Prof. Venkataraman's "updated" $2.3 million calculation remains massively inflated, and the Court should reject it.

## CONCLUSION

For these reasons, and for the reasons discussed in our sentencing submission, we respectfully urge the Court to impose a noncustodial sentence.

[9] The government rejected requests to provide any data reflecting Prof. Venkataraman's "updates," so these figures are based on Mr. Cusimano's best efforts to replicate the professor's updated analysis, as Mr. Cusimano explains. *See* Cusimano Reply Decl. ¶ 38 & n.34. This accounts for the roughly $21,000 difference between Prof. Venkataraman's $2.3 million figure and Mr. Cusimano's replicated $2.3 million figure in the table. *See id.*

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Respectfully submitted,

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